REMARKS/ARGUMENTS

Claims 1, 3, 4, 5, 6, and 7 are currently amended. Claims 1-7 are pending in the application. Applicants accept the Examiner's suggestion of the title as: Epidermal Growth Factor Agonist and have amended the term "epidermal growth factor biological activity" with "epidermal growth factor biological activity in cell proliferation or receptor binding," in Claims 1 and 3-7 as suggested. The following discussion addresses each rejection and objection set forth in the Office action. No new matter is added by the amendments.

Claim Rejections-35 USC §112 Enablement

The Examiner states (page 2, Office Action) that Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the protein comprising the amino acid sequence of SEQ ID NO: 2, does not reasonably provide enablement for variants of SEQ ID NO: 1. The Examiner further states that the problem of predicting protein structure from sequence data and in turn utilizing predicted structural determinations to ascertain functional aspects of the protein is extremely complex. Applicants respectfully disagree with the Examiner's conclusion. As noted by the Examiner, the specification provides a specific working embodiment of a product of the claim, i.e. SEQ ID NO.: 2. This embodiment exemplifies amino acid changes that resulted in improved properties. Thus, SEQ ID NO: 2 provides substantial guidance to those skilled in the art to develop other variants of SEQ ID NO: 1 without undue experimentation. SEQ ID NO: 1 is sufficiently small to permit mutation and synthesis with presently available DNA mutation technology and peptide synthesizers to provide a library of variants of SEQ ID NO: 1. Given the documented success of SEQ ID NO:2, the screening of other related sequences in such a library does not require undue experimentation. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

With respect to the Examiner's assertion (page 4, Office Action) that SEQ ID NO:2 is not more active than SEQ ID NO:1, applicants respectfully disagree. The data shows that the EC50 for SEQ ID NO: 2 is about two orders of magnitude higher SEQ ID NO: 1. Please see page 19 of the application. The Examiner's concern is not understood as the activity of this protein is not predicated upon its ability to displace EGF from its receptor.

Claim Rejections-35 USC §112 Written Description

The Examiner has rejected claims 1-7 under 35 USC §112, first paragraph as being failing to comply with the written description requirement. The Examiner citing *Vas-Cath Inc. v. Mahurkar*, 19 USPQ2d 11, *Fiers v. Revel* 25 USPQ2d 1601 and *Fiddes v Baird*, 30 USPQ2d 148, asserts that only isolated peptides comprising the amino acid sequence set forth in SEQ ID NO: 2, but not the full breadth of the claims meet the written description provisions of 35 USC §112, first paragraph. Applicants respectfully disagree. The present application is clearly distinguishable from the facts before the courts in *Vas Cath*, *Fiers*, and *Fiddes*. Applicants clearly establish possession of SEQ ID NO: 2, which exemplifies possession of the broader genus. The small, highly characterized, commercially available, wild type EGF peptide (SEQ ID NO: 1) in combination with the disclosure of the present invention provides sufficient written description to allow a skilled practitioner to immediately envision a number of peptide variants based on SEQ ID NO: 1 in accordance with the invention. The ease in which to test the peptide variants for the desired activity in accordance with the invention in combination with Applicants' actual example of the identification and testing of an active polypeptide (SEQ ID NO: 2), clearly sets the presently claimed invention apart from the cited case law. Applicants have provided far more than a "mere statement" regarding the identification and testing of peptide sequences in accordance with the invention. The patent laws do not require Applicants to have made each and every claimed embodiment to prove "possession" of the invention. Applicants' description of a polypeptide variant of SEQ ID NO: 2 meets the written description requirement for the full breadth of the present claims. No more is required.

With respect to Claim 2, enablement and written description are clearly found as Claim 2 is directed to the working example of SEQ ID NO: 2. Therefore, the rejection of this claim under 35 USC §112 for lack of enablement or lack of written description is improper.

With respect to the claim term as pointed out by the Examiner (page 6, Office Action), we have amended the term "epidermal growth factor biological activity" to recite "epidermal growth factor biological activity in cell proliferation or receptor binding" in Claim 1 and 3-7.

Claim Rejections-35 USC §102

The Examiner states (page 6, Office Action) that Claims 1-7 are rejected under 35 U.S.C 102(a) as being clearly anticipated by Coco et al., Nat Biotechnology, 2002 Dec; 20(12):1246-50. In response, the Applicants have filed a Declaration under 37 CFR 1.132 which establishes that the article is not available as prior art against the present application. In addition, the Applicants would like to point out that the publication did not describe the sequence for polypeptide EGF0021, mentioning only its name. Such a description does not satisfy the requirement that a reference must be enabling. The Applicants respectfully request that the rejection under 35 U.S.C. 102(a) be withdrawn.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned at (978) 251-3509.

Respectfully submitted,

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Dated: 10/31/05